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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/646,194	09/14/2000	Hisashi Saiga	55051(1117)	5757
21874	7590	11/01/2005		
EDWARDS & ANGELL, LLP P.O. BOX 55874 BOSTON, MA 02205			EXAMINER BASOM, BLAINE T	
			ART UNIT	PAPER NUMBER
			2173	

DATE MAILED: 11/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/646,194	Applicant(s) SAIGA ET AL.	
	Examiner Blaine Basom	Art Unit 2173	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 28,29,31-39 and 41-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 28,29,31-39 and 41-55 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office action is responsive to the Request for Continued Examination (RCE) filed under 37 CFR §1.53(d) for the instant application on 8/15/2005. The Applicants have properly set forth the RCE, which has been entered into the application, and an examination on the merits follows herewith.

Response to Arguments

The Examiner acknowledges the Applicants' amendments to claims 28-29, 31-39, and 41-55, in addition to the Applicants' submission of a new Abstract. In light of these amendments and the Applicants' arguments, the objection to the specification, the objection to claims 28, 38, and 46, the 35 USC 112 second paragraph rejection of claim 33, and the 35 USC 101 rejection of claims 28-29, 31-35, 38-39, 41-45, and 48-55, as presented in the previous Office Action, are respectfully withdrawn.

Regarding the PDF reference ("Portable Document Format Reference Manual, Version 1.2," attributed to Bienz et al.) – presented in the previous Office Action to reject at least claims 28, 31, 33-36, 38-39, 41, and 43-46 – the Applicants reiterate a previously-asserted argument. That is, the Applicants again assert that their invention concerns storing an entire document as a plurality of distinct "pre-specified units," each having the display information and management information necessary to display the portion of the document with which it is associated. The Applicants juxtapose this concept with the storage structure of a PDF document file, asserting that the "page objects" of a PDF document file cannot be considered pre-specified units as

claimed, since it is necessary to refer to information outside of the page objects to display and scroll a page associated therewith.

In response, the Examiner agrees with the Applicant in that a PDF “page object” cannot be considered a “pre-specified unit” or a “distinct file” like claimed. However, the Examiner respectfully notes that the claimed invention does not explicitly recite or suggest storing a document in the form of a *plurality* of pre-specified units or distinct files, and also notes that the claimed invention does not explicitly recite or suggest that such pre-specified units are each used to generate only a single page of the document. The Applicants suggest that the claimed invention is directed towards storing an entire document in the form of pre-specified units. No claim, however, explicitly indicates such a feature. For example, claim 28 makes no mention of a document, reciting only a data storage medium, having at least one pre-specified data unit recorded thereon. Claim 29, dependent on claim 28, associates a pre-specified unit with a page of a document, but recites only that “each pre-specified unit **includes** the display elements associated with a document page.” Therefore, the claims of the present application do not limit a pre-specified unit or distinct file to representing only a *portion* of a document.

Consequently, within the scope of the present claims, an entire PDF document file may be considered such a pre-specified unit or distinct file, since as more fully shown below in the following rejections, a PDF file includes (i) display elements for display by the display device, and (ii) management elements associated with the display elements, the management elements including all information necessary for the display device to select among the display elements for display, including a display of selected ones of the display elements in a predetermined sequence as a scroll display, and wherein the information defines a plurality of intervals that

together form a scroll path among the display elements along which the scroll display is to be conducted, the intervals forming the scroll path being specified by line segments having different directions in a coordinate system defined by the PDF file according to coordinate values assigned to the display elements in the PDF file, and whereby each PDF file includes the display elements associated with a document page.

The Applicants' arguments regarding the PDF reference have thus been considered, but are moot in view of the following grounds of rejections.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 38 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 38, the phrase "or the like" renders the claim indefinite because the claim includes elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 28, 31, 33-36, 38-39, 41, and 43-46 are rejected under 35 U.S.C. 102(b) as being anticipated by the “Portable Document Format Reference Manual, Version 1.2,” which is attributed to Bienz et al. (and hereafter referred to as “Bienz”). In general, Bienz describes the Portable Document Format (PDF), a file format used to specify electronic documents such that the documents are easily and reliably exchanged and viewed (see section 2.1, on page 27). Such PDF documents are stored as files (see section 2.3.2, on page 30), which are interpreted to be maintained in computer memory. As described below, each of these files comprises data to be displayed, in addition to all the display information and scroll display control information necessary for the display of the data. Each of these PDF files is consequently considered a “pre-specified unit,” like recited in the claimed invention. Therefore, computer memory having one or more PDF files stored thereon is considered a data storing medium with display data recorded thereon, wherein the display data is recorded in the form of pre-specified units.

Specifically regarding claims 28 and 38, it is understood that a PDF file describes a document, and comprises all of the information necessary to display the document. For example, Bienz discloses that a PDF document is implemented by a hierarchy of objects included within a PDF file (see section 6.1 on page 71). In particular, each page of the document is realized by a corresponding “Page object,” the Page object being efficiently accessed through a “Pages tree”

structure (see section 6.3, beginning on page 75). Each Page object describes the content and functionality of a single document page (see section 6.4, beginning on page 77), and particularly comprises a "Contents" parameter, which references the page description of its corresponding document page (see section 6.4, on page 78). Specifically regarding claim 38, it is understood that this page description comprises various graphic objects, considered display elements and image data objects like recited in claims 28 and 38, respectively, which are displayed within the associated document page (for example, section 8.1 beginning on page 209). It is also understood that, in addition to all the necessary display data, a PDF file comprises all the information necessary to scroll the document. For example, Bienz discloses that a PDF file may define one or more article "threads," each comprising one or more "beads" (see section 6.12 beginning on page 111). An article bead is associated with a distinct section of an article, whereby a plurality of such beads may be linked into a common thread, so that a user may read an entire article by scrolling from one article bead to the next, rather than from one page to the next (see section 6.12, beginning on page 111). In particular, each bead includes an "R" parameter, which identifies the page location on which its associated article content (i.e. graphic objects) appears (see Table 6.44 on page 112). It is understood that this page location is specified in a coordinate system according to the coordinate values assigned to the article content, since the R parameter is denoted by 4 values, wherein these 4 values identify the coordinates of the corners of the rectangle surrounding the associated article content (see section 7.1 on page 133). Each article bead is thus specified by a rectangle, or in other words, by two sets of line segments having different directions in a coordinate system - two parallel line segments extending in a first direction, and two parallel line segments extending in a second,

transverse direction. Additionally, each bead includes a “T” parameter, a “V” parameter, and an “N” parameter, which respectively identify the thread on which the bead belongs, the previous bead in the thread, and the next bead in the thread (see Table 6.44 on page 112). The beads are accordingly linked into a common thread such that a user may scroll from bead to bead, i.e. article section to article section, in order to read an entire article. It is interpreted that in doing so, the above-described T, V, and N parameters are used to move from one bead to the next, whereby for each bead, the above-described R parameters reference the bead’s associated article content, which is displayed at an appropriate zoom level (for example, see section 6.12 on page 111). Consequently, as a thread is formed by a plurality of intervals, namely beads, which are specified by line segments having different directions in a coordinate section defined by the PDF file, a thread is considered a scroll path along which scrolling through a document is to be conducted. Bienz thus presents a pre-specified unit of display data, specifically a PDF file, which includes (i) display elements (e.g. graphic objects) for display by the display device, and (ii) management elements associated with the display elements, the management elements including all information necessary for the display device to select among the display elements for display, including a display of selected ones of the display elements in a predetermined sequence as a scroll display, and wherein the information for selecting among the display elements for scroll display defines a plurality of intervals, i.e. beads, that together form a scroll path, i.e. thread, among the display elements along which the scroll display is to be conducted, the intervals forming the scroll path being specified by line segments having different directions in a coordinate system defined by the pre-specified unit according to coordinate values assigned to the display elements in the pre-specified unit.

Concerning claim 39, Bienz discloses that the document described by a PDF file may comprise one or more pages (for example, see section 6.3, beginning on page 75). A PDF file is consequently considered a “page grouping” like recited in claim 39, and Bienz thus teaches that a pre-selected portion of display data may be a page grouping of image data objects, and all of the management information associated therewith, required by the display device for the display, and the scroll display, thereof.

As per claims 31 and 41, Bienz discloses that a PDF document may display a link, similar to a hypertext link, which may be selected to display a thread of the same PDF document, or of a different PDF document (see section 6.9 beginning on page 96, and particularly section 6.9.5 beginning on page 101). It is understood that a user may encounter such a link when reading through an article thread, and that the user may select the link in order to display another article thread referenced by the link. Such a link is thus considered information for linking with another scroll display path, i.e. thread, and Bienz is therefore considered to teach that the management information associated with image data objects may contain information for linking with another scroll display path.

Referring to claims 33 and 43, the article beads of Bienz are considered to constitute “scroll display control information,” as is described above in the paragraph regarding claim 28. As further shown above, each bead includes an R parameter, which delineates a specific article section by means of four coordinate values, these coordinate values defining a rectangle. The beads are linked into a common thread so that a user may scroll from bead to bead in order to read an entire article, whereby for each bead, the content bounded by this rectangle is displayed at an appropriate zoom level (for example, see section 6.12 on page 111). Thus the management

elements taught by Bienz include management elements associated with selected areas of the coordinate system defined by the PDF file.

As per claims 34 and 44 the article beads described by Bienz are considered to constitute “scroll display control information,” as is described above in the paragraph regarding claim 28. Each bead includes an R parameter, which as shown above, delineates specific document content by means of four coordinate values, these coordinate values defining a rectangle about the content. The beads are linked into a common thread so that a user may scroll from bead to bead in order to read an entire article, whereby for each bead, the content bounded by this rectangle is displayed at an appropriate zoom level (for example, see section 6.12 on page 111). Consequently, it is understood that the size of such a rectangle affects the amount of zoom for the document content referenced by the bead; for example, if the rectangle is the size of an entire page, the document content may not be zoomed much, whereas if the rectangle is much smaller, the document content may be enlarged more significantly. Thus the scroll display control information taught by Bienz includes information, specifically the rectangle identified by the R parameter, which intrinsically specifies a scale of enlargement or reduction of a display area for scroll display.

As per claims 35 and 45, the B parameter of Bienz, and its referenced article beads, are considered “scroll display control information,” as is described above in the paragraph regarding claims 28 and ~~38~~ 39. Such an article bead includes a R parameter, which as shown above, references specific document content by means of four coordinate values, these coordinate values defining a rectangle about the document content. Regarding the claimed invention, Bienz discloses that PDF documents may include movies and sounds (see section 1.3 on page 20). It is

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therefore understood that the document content referenced by the above-described R parameter may comprise movies and/or sounds. Consequently, the scroll display control information taught by Bienz includes synchronous reproduction information, namely the R parameter, which specifies data content to be reproduced in synchronism with the scroll display, and wherein this data content may comprise non-motionless data such as sound and/or moving images.

In reference to claims 36 and 46, Bienz discloses that a computer is used for reproducing and displaying a PDF document (for example, see section 2.2 on page 28). As described above, such a PDF document is stored in a storage medium and is scrolled based on the above-described scroll display control information. Such a computer presenting the PDF document described by Bienz is therefore considered a “display device,” like that recited in claims 36 and 46.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 29, 37, and 47-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Portable Document Format Reference Manual, which is described above, and also over U.S. Patent No. 5,634,064, which is attributed to Warlock et al. (and hereafter referred to as “Warnock”). Specifically regarding claim 29, a PDF file comprises information used to display and control a particular document, and specifically comprises scroll information specifying one

or more threads for the document. As the size of document is arbitrary, it is understood that a PDF document may possibly comprise only a single page (for example, see section 6.3, beginning on page 75). It is understood, in other words, that the pre-specified unit of display data may be a page. Regarding such an occurrence, however, Bienz does not explicitly disclose that a single page may comprise a thread, formed by a plurality of beads, as is expressed in claim 28, upon which claims 29 depends.

Like the PDF format described above, Warnock discusses documents which may comprise one or more articles, each article having sections on different pages of the document, whereby a thread may be created so that a user may read an entire article by scrolling from one article section to the next, rather than from one page to the next (see column 2, line 30 – column 3, line 31). Regarding the claimed invention, Warnock teaches that a single page of a PDF document may have more than one article section of the same article, such that a user can display a single article section of the page at a time, and scroll from one article section to the next (for example, see column 5, line 46 – column 7, line 31). When displayed, each article section is automatically zoomed to fit within the display window, yet may still require scrolling if the length of the article section, for example, does not fit within the window (see column 10, line 56–column 11, line 36). Particularly, each article section is displayed at either the beginning of the section and scrolled toward the end of the section, or displayed at the end of the section and scrolled toward the beginning (see column 11, line 31 – column 12, line 9). Each article section is thus implicitly associated with two vectors which further specify the scroll path through an article, one vector starting at the beginning of the section and ending at the end, the other vector starting at the end of the section, and ending at the beginning of the section.

It would have been obvious to one of ordinary skill in the art, having the teachings of the Portable Document Format Reference Manual and Warnock before him at the time the invention was made, to modify the PDF format taught by Portable Document Format Reference Manual, such that multiple article beads may be linked on the same page, as is done by Warnock. It would have been advantageous to one of ordinary skill to utilize such a combination because the ability to navigate between particular sections of an article located within the same page is beneficial in certain document layouts, such as columnar layouts, as is demonstrated by Warnock.

With respect to claims 48, 49, 50, 51, 52, and 53, Warnock teaches that the scroll path though each bead is inherently conducted along one of two vectors, one vector starting at the beginning of the bead and ending at the end, the other vector starting at the end of the bead, and ending at the beginning, as is described above. As further described above, the PDF format comprises an "R" parameter associated with each bead, the "R" parameter defining a rectangle as 4 coordinate values in a coordinate system defined by the PDF file within which the bead is located. This rectangle, surrounding the article section, identifies the beginning and end of the section, and therefore defines the vectors by which the scroll paths through the section are defined. It is consequently understood that with the above-described combination of the PDF Reference Manual and Warnock, the scroll display control information, specifically the "R" parameter for each bead, specifies the scroll path of the display of the display information as vectors identified by coordinate values of the pages in a coordinate system defined by the display data according to coordinate values assigned to the article sections in each page. Each PDF file of display data may be sequentially displayed along such vectors, since as described above, the

beads are linked into a common thread so that a user may scroll from bead to bead in order to read an entire article of the PDF file.

In reference to claims 54 and 55, Warnock discloses that each article bead may be associated with a zoom level, the zoom level being based on the width of the article section (see column 11, lines 4-30). As described above, the PDF format comprises an “R” parameter associated with each bead, the “R” parameter defining a rectangle surrounding the article section associated with the bead. This rectangle, since it surrounds the article section, defines the width of the section. It is consequently understood that the with the above-described combination of the PDF Reference Manual and Warnock, the scroll display control information; specifically the “R” parameter for each bead, defines an appropriate zoom level for the bead, and is thus considered a scale of enlargement or reduction of a display area for scroll display on the screen of a display device.

Specifically regarding claims 37 and 47, Bienz discloses that a computer is used for reproducing and displaying a PDF document, as is described above. As further described above, such a PDF document is stored in a storage medium and is scrolled based on the above-described scroll display control information. This computer presenting the PDF document described by Bienz is therefore considered a “display device,” like that recited in claims 36 and 46. It is understood that this computer comprises a processing unit, as known in the art, whereby this processing unit ultimately implements and controls the scroll display of the image on the computer’s display screen. Consequently, such a processing unit is considered a “scroll indicating means,” like that recited in claims 37 and 47. Warnock teaches that the PDF document, displayed via such a processing unit, may be scrolled only while the user instructs the

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computer to scroll the document in either the forward or backward directions along a thread, i.e. scroll path (for example, see column 2, lines 38-55; and column 10, line 56 – column 12, line 9). The above-described combination of Bienz and Warnock is thus considered to teach a display device comprising a scroll indicating means for scroll display, wherein the scroll display is conducted based on scroll display information only while a user instructs the a display controller to perform the scroll display in either the forward or backward directions along a scroll path.

Claims 32 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the above-described PDF documents taught by Bienz, and also over Japanese Patent No. 5-323941, which is attributed to Michihiro Ota (and hereafter referred to as “Ota”). As described above, Bienz discloses a data storage medium with display data recorded thereon, wherein like recited in each of claims 28 and 38, the display data is provided with all the necessary information for scroll display on a display screen. This information for scroll display comprises a plurality of beads denoting article sections, which as described above, may be linked into a common thread, so that a user may read an entire article by scrolling from one article bead to the next, rather than from one page to the next (see section 6.12, beginning on page 111). Bienz however does not explicitly disclose that this information for scroll display includes information specifying a scroll display speed, as is expressed in each of claims 32 and 42.

Like Bienz, Ota discloses a method for presenting a document on a display screen, whereby the document can be scrolled. Regarding the claimed invention, Ota teaches that the scroll speed may be varied according to the number of characters displayed (see the abstract of Ota). Consequently it is understood that the document described by Ota is associated with

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information for scroll display, wherein this information for scroll display includes information on a scroll display speed.

It would have therefore been obvious to one of ordinary skill in the art, having the teachings of Bienz and Ota before him at the time the invention was made, to modify the information for scroll display taught by Bienz, such that the articles may be scrolled at a rate proportional to the number of characters displayed, as is taught by Ota. It would have been advantageous to one of ordinary skill to utilize such a combination because the resulting document scrolling speed would match the document reading speed of a user, as is taught by Ota (see the abstract of Ota). This is a desirable attribute for a document displaying system. Thus with this combination of Bienz and Ota, the beads of an article thread are each scrolled at a rate proportional to the number of characters displayed in the article section associated with each bead. In other words, the content of the article section implicitly specifies the scroll display speed of that section. The content of such an article section is determined by the P and R parameters of the bead associated with that article section, as is described above in the rejection for claims 28-29 and 38-39. Thus the P and R parameters of each bead specifies the content of an article section, which in turn includes information (namely the characters displayed in that article section) that determines the scroll display speed, and therefore, the P and R parameters are understood to inherently include information specifying the scroll display speed. Consequently with this combination of Bienz and Ota, the scroll display control information includes information specifying a scroll display speed.

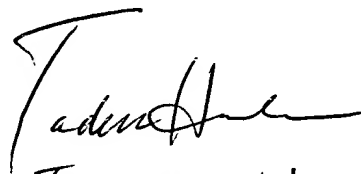
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blaine Basom whose telephone number is (571) 272-4044. The examiner can normally be reached on Monday through Friday, from 8:30 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cabeca can be reached on (571) 272-4048. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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